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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/889,251	11/01/2001	Robert K. Naviaux	UCSD1140-1	9760

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LISA A. HAILE, PH.D.
GRAY CARY WARE & FREIDENRICH LLP
4365 EXECUTIVE DRIVE, STE 1100
SAN DIEGO, CA 92121-2133

EXAMINER	
SPIVACK, PHYLLIS G	
ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/889,251	NAVIAUX, ROBERT K.	
	Examiner	Art Unit	
	Phyllis G. Spivack	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 July 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *67,70,73-81,84-91 and 95-110* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *67,70,73-81,84-91 and 95-110* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Applicant's Response filed July 7, 2006 is acknowledged. New claims 96-110 are presented. Accordingly, claims 67, 70, 73-81, 84-91 and 95-110 are now under consideration.

Following an amendment to claim 95, an indication of allowable subject matter is withdrawn.

Claims 67, 70, 73, 75-78, 80, 85, 89-91 and 93 were rejected in the last Office Action under 35 U.S.C. 103(a) as being unpatentable over Naviaux et al., a presentation at the "Mitochondrial Dysfunction in Human Pathology" meeting in Melbourne, Australia, 7 September, 1998. It was asserted Naviaux teaches the administration of triacetyluridine to treat and to reduce one or more symptoms associated with various mitochondrial disorders comprising administering triacetyluridine.

The rejection is withdrawn because the effective filing date of the present application is February 23, 1999, the filing date of the provisional application 60/121588. A Declaration was filed under 37 CFR 1.131 on March 9, 2005 showing Applicant's work antedates von Borstel, U.S. Patent 6,472,378, filed August 31, 1998. Antedating the von Borstel document necessarily antedates the Naviaux reference since its publication date is September 7, 1998.

Applicant's arguments with respect to claims 67, 70, 73, 75-81, 84-91 and 93 that were rejected under 35 U.S.C. 103(a), as being unpatentable over Page et al., Proc. Natl. Acad. Sci., have been considered but are moot in view of the new ground of rejection.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 67, 70, 73-81, 84-91 and 95-110 are rejected under 35 U.S.C. 103(a) as being unpatentable over Page et al., Proc. Natl. Acad. Sci., in view of Elverland et al., American Journal of Otology (abstract).

Page teaches the oral administration of uridine to treat a syndrome characterized by abnormal purine and pyrimidine metabolism. Dosage ranges are disclosed in column 2, page 11603. The patients presented with persistent hypouricosuria and decreased incorporation of uridine into nucleotides. Clinically, the patients exhibited developmental delay, seizures, ataxia, recurrent infections, severe language deficit and an unusual behavioral phenotype characterized by hyperactivity, short attention span and poor social interaction. See Table 1, page 11602. Subsequent to uridine supplementation, according to Page, all patients showed remarkable improvement in speech and behavior. Page suggests the effects of increased nucleotide catabolism relate to the symptoms of these patients. The claims differ in that Page does not use the term "mitochondrial disorder". However, Elverland teaches a mitochondrial disorder to be an inborn error of metabolism affecting the cellular respiratory chain. See the first sentence of the abstract. Either designation refers to any of a group of congenital disorders caused by an inherited defect in a single specific enzyme that results in a

disruption or abnormality in a specific metabolic pathway. Page describes the clinical features that characterize the diseases recited in claims 67 and 91. The recitation of various mitochondrial disorders in claims 67 and 91, such as renal tubular acidosis, lactic acidemia, encephalomyopathy, aminoaciduria, 1+proteinuria and hydroxyprolinuria, for example, also describes clinical features of mitochondrial disease states, and are not the actual mitochondrial disease contemplated.

One skilled in the neurology art, in view of Elverland's teaching, would have been motivated to explain a broad spectrum of clinical features characterized by developmental delay, seizures, ataxia, severe language deficit, unusual behavior, abnormal EEG findings and greatly increased nucleotide catabolism as suggestive of a mitochondrial disease. It would have been reasonable to expect the metabolic basis for the effectiveness of oral uridine in the treatment of the developmental disorders described by Page are the same as those more recently termed mitochondrial disorders which Elverland confirms to be one and the same. Etiologic factors and manifestations of a mitochondrial disease process, as recited in claims 70-79 and 96-100, are known in the prior art. Multiple drug therapy is conventional practice. The determination of an optimal dosage range is a parameter well within the purview of those skilled in the art through no more than routine experimentation.

No claim is allowed.

Applicant's amendment necessitated the new ground of rejection presented in this Office Action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this Final Action is set to expire THREE MONTHS from the mailing date of this Action. In the event a first reply is filed within TWO MONTHS of the mailing date of this Final Action and the Advisory Action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the Advisory Action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the Advisory Action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this Final Action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Phyllis G. Spivack whose telephone number is 571-272-0585. The Examiner can normally be reached on 10:30 AM-7 PM.

If attempts to reach the Examiner by telephone are unsuccessful after one business day, the Examiner's supervisor, Ardin Marschel, can be reached on 591-272-0718. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Phyllis G. Spivack
Primary Examiner
Art Unit 1614

PHYLLIS SPIVACK
PRIMARY EXAMINER

September 27, 2006